Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A method for writing to magnetoresistive memory cells of an MRAM memory, the magnetoresistive memory cells having a multilayer system containing layers stacked one above another, the layers including a soft-magnetic layer, a hard-magnetic layer and a tunnel oxide layer disposed between the soft-magnetic layer and the hard-magnetic layer, which comprises the steps of:

impressing write currents being in each case impressed on a respective word line and a respective bit line resulting in a superposition of magnetic fields generated by the write currents, and in each selected memory cell selected by the respective word line and the respective bit line, a magnetic field leads to a change of a magnetization direction of only the soft-magnetic layer, the write currents being impressed on the respective word line and the respective bit line causing a magnetic field produced by the superposition of only a magnetic field of the respective word line current and a magnetic field of the respective bit line current to be precisely large enough to suffice for switching the magnetization of the soft magnetic layer in the selected

memory cell but small enough that neither adjacent cells nor non-selected memory cells situated on selected lines are switched, the timings of the impression of both the respective word line current and the respective bit line current being ~~exactly~~ controlled to be offset to one another by a part of the switching duration of at least the word line current for rotating the magnetization direction of the soft magnetic layer writing a logic "0" and "1", respectively, in three successive incremental angular displacement steps, wherein for writing a logic "0" that magnetization direction is rotated in three first steps in a first angular direction, and for writing a logic "1" the magnetization direction is rotated three second steps in a second inverse direction. ~~so that the conventional switching of the magnetization direction of the soft magnetic layer of the selected memory cell is transferred into a magnetization rotation process rotating said magnetization direction of the soft magnetic layer in a plurality of successive angular displacement steps for incrementally rotating the magnetization direction of the soft magnetic layer in a direction desired for writing a logic "0" or "1".~~

Claim 2 (previously presented): The method according to claim 1, which further comprises impressing the write currents for the selected memory cell in each case in approximately a same

duration and in a manner offset in time with respect to one another by half of their switching duration.

Claim 3 (canceled)

Claim 4 (currently amended): An MRAM memory configuration, comprising:

an array containing magnetoresistive memory cells each having a multilayer system with layers stacked one above another, said layers including a soft-magnetic layer, a hard-magnetic layer, and a tunnel oxide layer disposed between said soft-magnetic layer and said hard-magnetic layer;

word lines;

bits lines crossing said word lines at each of said magnetoresistive memory cells; and

a writing control circuit for impressing write currents in each case onto a respective word line and a respective bit line of a respective memory cell selected for writing, said writing control circuit having a write circuit for impressing the write currents in each case on said respective word line and said respective bit line causing a magnetic field produced

by the superposition of only a magnetic field of the respective word line current and a magnetic field of the respective bit line current to be precisely large enough to suffice for rotating ~~the magnetization~~ a magnetization direction of the soft magnetic layer in the selected memory cell but small enough that neither adjacent cells nor non-selected memory cells situated on selected lines are switched, said write circuit controlling the timings of the impression of both said respective word line current and said respective bit line current to be offset to one another by a part of the switching duration of at least the word line current for rotating the magnetization direction of the soft magnetic layer of the respective memory cell for writing a logic "0" and "1", respectively, in three successive incremental angular displacement steps, wherein for writing a logic "0" said write circuit rotates the magnetization direction in three first steps in a first angular direction and for writing a logic "1" said write circuit rotates the magnetization direction in three second steps in a second inverse angular direction.~~exactly causing the conventional switching of the soft magnetic layer of the selected memory cell to be transferred into a magnetization rotation process with only the soft magnetic layer of the respective memory cell being rotated in a plurality of successive angular displacement steps for incrementally rotating the magnetization direction~~

~~of the soft magnetic layer in a direction desired for writing a logic "0" or "1".~~

Claim 5 (previously presented): The method according to claim 1, wherein in order to write a logic "1" to the selected memory cell the write current in the bit line is impressed in the same current flow direction as the flowing of the write current of the word line and is impressed in a delayed manner relative to the write current of the word line.

Claim 6 (previously presented): The method according to claim 2, wherein in order to write a logic "1" to the selected memory cell the write current in the bit line is impressed in the same current flow direction as the flowing of the write current of the word line and is impressed in a delayed manner relative to the write current of the word line.

Claim 7 (previously presented): The method according to claim 1, wherein the plurality of successive angular displacement steps of the rotation of the magnetization direction of the soft magnetic layer comprises:

a first rotating step, when the write current flows only in the word line for rotating the magnetization direction of the soft magnetic layer of the selected memory cell by an angle

between 0° and 90° with respect to its original magnetization direction;

a second rotating step, when the write currents flow in both the word line and the bit line for rotating the magnetization direction of the soft magnetic layer of the selected memory cell by an angle between 90° and 180° with respect to its original magnetization direction; and

a third rotation step, when the write current flows only in the bit line for further rotating the magnetization direction of the soft magnetic layer into the desired final state in which the magnetization direction of the soft magnetic material differs by 180° with respect to its original magnetization direction.